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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,845	03/04/2002	Julio A. Abusleme	108910-00057	4315

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT PAPER NUMBER

1773

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,845

Applicant(s)

ABUSLEME ET AL.

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-16 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. Claims 1-3, 6-9, and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arcella et al. (U.S. Patent 6,509,073) in view of Stoeppelmann (U.S. Patent 5,869,157).

Arcella et al. teach a multilayer article that may be used as a fuel hose comprising a layer of a fluorinated polymer composition and a layer of hydrogenated polymer (column 2, lines 54-60). Suitable hydrogenated polymers include thermoplastic polymers, such as polyamides (column 3, lines 6-15). The fluorinated polymer composition comprises a copolymer of ethylene with tetrafluoroethylene and/or chlorotrifluoroethylene modified with an acrylic monomer, such as n-butylacrylate, that reads on the monomer of formula (a) in instant claim 1 (column 1, line 65-column 2, line 21). The copolymer comprises 10-70 mole% ethylene, 30-90 mole% tetrafluoroethylene and/or chlorotrifluoroethylene, and 0.1-30 mole% of acrylic monomer (column 2, lines 11-17).

Regarding claim 9, the tube of Arcella et al. is taken to be in the form of sheath-core fibers since it has inner (i.e. core) and outer (i.e. sheath) layers.

Arcella et al. do not teach the presence of a layer comprising diamines and a polyamide having an amount of -NH₂ end groups in the range of 40-300 µeq/g. However, Arcella et al. do teach a tube comprising a layer of a fluoropolymer and a layer of polyamide.

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Stoeppelmann is directed to an adhesion promoter that bonds fluoropolymers to polyamides for use in multilayer tubes (column 2, lines 33-41). In one embodiment the adhesion promoter comprises a polyamide having an -NH_2 end group concentration of 50 $\mu\text{eq/g}$ and a diamine, such as decyldiamine or dodecyldiamine (column 4, lines 1-14). In an alternative embodiment, the adhesion promoter comprises the diamine and a polyamide having an equal amount of -NH_2 and -COOH end groups (column 4, lines 20-26). The amount of -NH_2 groups in this alternative embodiment should be about 35 $\mu\text{eq/g}$ (total number of end groups = -NH_2 end groups + -COOH end groups = 20 $\mu\text{eq/g}$ + 50 $\mu\text{eq/g}$ = 70 $\mu\text{eq/g}$; if the polymer has an equal amount of -NH_2 and -COOH end groups it should have 35 $\mu\text{eq/g}$ of each). The diamine is present in an amount of 0.25-2 wt% (column 4, lines 12-14).

One of ordinary skill in the art would be motivated to use the adhesion promoter of Stoeppelmann in the article of Arcella et al. to tightly adhere the fluoropolymer and polyamide layers together.

Therefore, the inventions of claims 1-3, 6-9, and 11-16 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arcella et al. (U.S. Patent 6,509,073) in view of Stoeppelmann (U.S. Patent 5,869,157) as applied to claim 1 above, and further in view of Krause et al. (U.S. Patent 5,958,532).

Arcella et al. taken in view of Stoeppelmann teach all the limitations of claim 10, as outlined above, except for the present of an inner layer that is made conductive by the incorporation of graphite and/or carbon black.

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Krause et al. is directed to a fluoropolymer hose that may be used in a fuel line (column 1, lines 15-17). The hose comprises two fluoropolymers layers (column 2, lines 23-29). The inner fluoropolymer layer has electrostatic discharge resistance, allowing electrostatic charge generated during the flowing of fuel to be carried to the ground (column 3, lines 52-63). The most preferred fluoropolymer for the inner fluoropolymer layer is ETFE sold under the Tefzel[®] trademark (column 3, line 64-column 4, line 20). Tefzel[®] ETFE fluoropolymers are composed of about 40-70 % ethylene and 30-60% tetrafluoroethylene.

One of ordinary skill in the art would be motivated to add an inner fluoropolymer layer of ETFE having electrostatic discharge resistance to the fuel hose of Arcella et al. to yield a safer product by allowing electrostatic charge generated during use to be carried to the ground.

Therefore, the invention of claim 10 would have been obvious to one of ordinary skill in the art at the time the invention was made.

Terminal Disclaimer

4. The terminal disclaimer filed on 14 November 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent 6,509,073 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments

5. Applicant's arguments filed 14 November 2003 have been fully considered but they are not persuasive.

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The applicants argue that Arcella et al. requires a crosslinking agent in their fluoropolymer and that Stoeppelmann require the presence of a diamine in their polyamide adhesion promoter in contrast to the instant invention which does not require a crosslinking agent in fluoropolymer layer A) or a diamine in polyamide layer B).

This is not persuasive because the claims are written with open language. As such, the compositions of the layers are open to the inclusion of any other material, including crosslinking agents and diamines. Whether Arcella et al. teach away from fluoropolymers without crosslinking agents or Stoeppelmann teaches away from polyamides without diamines is immaterial since the instant claims do not require the fluoropolymer to be free of crosslinking agents or the polyamide to be free of diamines. The combination of Arcella et al. in view of Stoeppelmann read on the instant claims because the language of the instant claims is open, thus permitting the incorporation of any other compounds.

Allowable Subject Matter

6. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The statement of reasons for the indication of allowable subject matter has been presented in the action mailed 14 August 2003.

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Conclusion

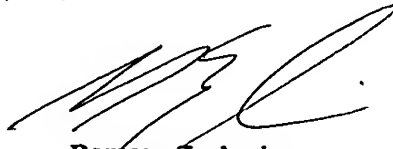
8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (571) 272-1516. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.


Ramsey Zacharia
Primary Examiner
Tech Center 1700